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APPLICATION NO. 09/113,254	FILING DATE 07/10/98	FIRST NAMED INVENTOR MADIGAN	ATTORNEY DOCKET NO. 29214
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EXAMINER GRUNBERG, A

ART UNIT 1849	PAPER NUMBER
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DATE MAILED: 06/18/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/113,254

Applicant(s)
Madigan et al.

Examiner
Anne Marie Grunberg

Group Art Unit
1649



☒ Responsive to communication(s) filed on Jul 10, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-75 is/are pending in the application.

Of the above, claim(s) 70-73 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-69, 74, and 75 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Jul 10, 1998 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1649.

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1- 69, and 74-75, drawn to a seed capsule and methods of use, classified in class 47, subclass 58.1, for example.
 - II. Claims 70-73, drawn to a method of making capsules, classified in class 47, subclass 57.6, for example.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the capsules can be made by a method involving different sequences of steps than that claimed in Group II.

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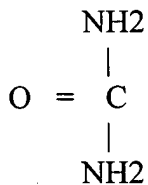
Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification or by their recognized divergent subject matter and because the search required for Invention I is not required in Inventions II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Attorney Thomas Wilhelm on June 8, 1999 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-69, and 74-75.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

3. The disclosure is objected to because of the following informalities:

a. Throughout the specification, as on page 8, lines 22-24, for example, urea is described as inorganic. However urea has the following structure which clearly has a carbon and makes urea an organic substance;



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b. Throughout the specification, as on page 9, lines 5-7, for example, sulfur, magnesium and chromium are characterized as being micronutrients. However, according to Biology of Plants (Raven et al., 1992), sulfur and magnesium are macroelements, and chromium is not listed as a micronutrient.

c. The figures are described in a confusing manner in the specification. For example, on page 19, lines 23-28, Figure 1 and 2 are said to contain a numbered "12", "14", and "16". However, Figure 1 does not seem to contain a "12" or "14", and Figure 2 does not contain a "16". The description of all the figures should be reviewed for such errors.

d. The drawings are objected to because Figure 1 has a number appearing under the labeled number "28" that is unreadable.

Appropriate correction is required. No new matter should be added.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-2, 4-5, 7, 9, 12-13, 18, 22, 26-28, 30-31, 33, 35-36, 39, 43, 45-48, 51-52, 54-55, 58, 61-62, and 67-68, and dependent claims 3, 6, 8, 10-11, 14-17, 19-21, 23-25, 29, 32, 34, 37-38, 40, 56-57, 59-60, 63-66, and 69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is unduly narrative in the recitation of "having an outer surface", and is vague and indefinite in the recitation of "mounted proximate, including disposed outwardly of the outer surface". It is unclear what the object of "mounted" is, nor is it clear what the second part of the phrase is referring to.

Claims 2, 28, 43, and 55 are vague and indefinite in the recitation of "enhancing", "reducing", "affects", and "assisting". This rejection may be obviated by changing the above to --enhanced--, --reduced--, --effects--, and --assistance--. Additionally, "ones of" is unclear (line 1 of iv.), and "flight" gives the impression that the seeds can fly. Since "flight" does not seem to be defined in the specification, it should be deleted.

Claim 4 is vague and indefinite in the recitation of "affect" as it is unclear what is intended. This rejection may be obviated by inserting --effects-- in its stead.

Claims 4 and 7 are vague and indefinite in the recitation of "animals, weeds, and spore-formers" for employing improper Markush terminology. See MPEP 2173.05(h). This rejection may be obviated by changing the phrase to --animals, weeds, or spore-formers.--

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Claim 5 is vague and indefinite in the recitation "bitter substance". This terminology does not appear to be defined in the specification and it is subjective language that is open to interpretation.

Claims 9 and 58 are vague and indefinite in the recitation "and generally displaced from said seed" or "and generally displaced from the seeds" because it is not clear what is meant.

The recitation of "urea" in claim 12 is not in accordance with the term "inorganic" which precedes it. Urea is not an inorganic plant nutrient.

Claim 13 is vague and indefinite in grammatical composition. This rejection may be obviated by inserting --which-- before "is".

The recitation of "sulfur" and "chromium" in claim 18 is not in accordance with the term "micronutrient". According to the Biology of Plants (Raven et al., Ed, page 596), sulfur is a macronutrient, and chromium is not listed as a micronutrient.

Claim 22 is vague and indefinite in the recitation of "ones, but less than all", and in "for germination thereof" which are unduly narrative and confusing. This claim should be reworded to better reflect the intended meaning of the claim.

Claim 26 is vague and indefinite in the recitation of "having a first overall soil condition and texture", and "disposed outwardly of the outer surfaces of said seeds". The recitation "having outer surfaces," and "said coatings of said seed capsules.....in the root zone of said plant growing medium." is unduly narrative.

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Claim 27 is vague and indefinite in the recitation "until respective ones of said seeds germinate." It is unclear what "ones" is referring to.

Claims 30-31 are vague and indefinite in the recitation of "affect" or "effect" and "animals, weeds, and spore-formers" for reasons stated above. This rejection may be obviated by changing the above to --effects--, and --animals, weeds, or spore-formers.--

Claims 33 and 45 are vague and indefinite in the recitation "and generally displaced from said seeds" because it is not clear what is meant.

Claims 35 and 61 are vague and indefinite in the recitation of "uncoated ones of".

Claims 36, 48, and 62 are vague and indefinite in the recitation of "including" which is not U.S. recognized terminology since it is not possible to distinguish whether it is an open or closed term. This rejection may be obviated by replacing "including" with --further compromising--.

Claims 39, 51 and 67 are vague and indefinite in the recitation of "agglomerating said coatings onto said inner layers." It is unclear how the coatings can be agglomerated onto their own inner layers.

Claim 46 is vague and indefinite in the recitation of "nitrogen, phosphorus, and potassium" which employs improper Markush terminology. This rejection may be obviated by changing the above to --nitrogen, phosphorus, or potassium.--

Claim 47 is vague and indefinite in the recitation of "chromium" Chromium is not a recognized plant nutrient as taught by Biology of Plants (Raven et al., Ed, page 596).

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Claim 52 is vague and indefinite in the recitation of "comprising" which is grammatically incorrect. This rejection may be overcome by deleting "comprising" and inserting --comprises--.

Claim 54 is unduly narrative in part '(a)'. It is unclear what applicant is claiming.

Claim 68 is vague and indefinite in the recitation of "the soil conditioners and plant nutrients" which lacks antecedent basis in claims 54. This rejection may be obviated by deleting "the" in line 2 of claim 68.

Clarification is required. No new matter should be added.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 7-10, 12, 14-15, 17, 21, 23-35, 39-41, 43-45, 47-48, 51-59, 61, 63, 66-69, and 74-75, are rejected under 35 U.S.C. 102(b) as being anticipated by Gerber.

Claims 1-5, 7-10, 12, 14-15, 17, 21, 23-35, 39-41, 43-45, 47-48, 51-59, 61, 63, 66-69, and 74-75, are drawn to a combination seed capsule which can be easily broadcast, and which protects the seed from the weather and pests, thus increasing germination rate, and prolonging the

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range during which the seed may germinate. Additionally, the seed capsule may comprise two coats and may contain nutrients, herbicides, pesticides, and a bitter substance. Moisture retaining substances and other additives, enhance the germination microenvironment of the seed and act as a soil conditioner.

Gerber teaches a seed pellet having a core containing seed, organic substrates, loess, organic fertilizers, fungicides, pesticides, and a wetting agent which promotes surface wettability (abstract, first 4 lines). At least one bitter substance may also be present to deter animals from eating the seed capsules (column 4, lines 13-28). A second, outer coat may be applied to the core and should be semipermeable to allow water to penetrate but which keeps the water-soluble constituents from leaving the core (column 4, lines 29-48). The seed capsule inhibits germination during storage (column 7, lines 62-65). The pellets allow an increase in germination to occur (column 6, lines 48-49) and allow seeds to better be dispersed from an airplane (column 7, lines 65-66).

8. Claims 1-5, 8, 19, 21-30, 32, 35, 37, 39-41, 43-44, 47, 49, 51-57, 61, 64, 66-69, and 74-75 are rejected under 35 U.S.C. 102(b) as being anticipated by Roth.

Claims 1-5, 8, 19, 21-30, 32, 35, 37, 39-41, 43-44, 47, 49, 51-57, 61, 64, 66-69, and 74-75 are drawn to a combination seed capsule which can be easily broadcast, and which protects the seed from the weather and pests, thus increasing germination rate, and prolonging the range during which the seed may germinate. Additionally, the seed capsule may comprise two coats

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and may contain nutrients, herbicides, pesticides, and a bitter substance. Moisture retaining substances and other additives, enhance the germination microenvironment of the seed and act as a soil conditioner. Additionally, the soil conditioning material comprises a sludge composition.

Roth teaches a methanol treated activated sludge carrier that acts as a means for sustaining the release of agricultural chemicals and can be used as a seed pelleting composition (abstract). The sludge acts as a carrier for all types of chemicals including pesticides, fertilizers, plant growth regulators, attractants and repellants (column 2, lines 48-52). Compounds such as urea, and iron are discussed in column 3, lines 1-22. Crop seeds are coated with the pelleting composition (column 4, lines 46-48, claims 9, and 16-17) which is stable under adverse weather conditions, and although hydrating in water, does not dissolve and wash off the substrate (column 2, lines 41-44).

It is well known in the art, that seed coatings or encapsulations increase the size of the seed to make broadcasting easier and to improve flowability. Trace elements, nutrients, pesticides, and wettable substances serve to protect the seed and increase germinability, thus increasing the health and survival rate of young plants. Thus, these features are inherent properties of the coated seeds taught by Roth.

9. Claims 1-4, 7-9, 14, 20-21, 24-32, 35,38-45, 47, 50-58, 61, 65-68, and 74-75 are rejected under 35 U.S.C. 102(b) as being anticipated by Nilsson.

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Claims 1-4, 7-9, 14, 20-21, 24-32, 35,38-45, 47, 50-58, 61, 65-68, and 74-75 are drawn to a combination seed capsule which can be easily broadcast, and which protects the seed from the weather and pests, thus increasing germination rate, and prolonging the range during which the seed may germinate. Additionally, the seed capsule may comprise two coats and may contain nutrients, herbicides, pesticides, and a bitter substance. Moisture retaining substances and other additives, enhance the germination microenvironment of the seed and act as a soil conditioner. Additionally, the soil conditioning material comprises a fiber-containing by-product of a paper making operation.

Nilsson teaches a seed germination improving capsule having a water absorbing ability (abstract) which may be made from paper pulp or paper fibers (column 1, lines 60-65). The capsule material may be provided with additives such as nutrients, wetting agents, and germination inhibitors, etc (column 3, lines 18-23) The capsule may also be dyed blue in order to discourage animals from eating them (column 3, lines 23-25). An additional outer material may be applied as a wetting agent (column 3, lines 36-44). Seed capsules disperse well and due to the dispersal properties and protective properties of the seed capsule, not as many seeds need to be dispersed (column 3, lines 26-35, column 6, lines 64-68, table 1 in column 7).

Claim Rejections - 35 USC § 103

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-69, and 74-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber in view of Aswell and Roth.

Claims 1-69, and 74-75 are drawn to a combination seed capsule which can be easily broadcast, and which protects the seed from the weather and pests, thus increasing germination rate, and prolonging the range during which the seed may germinate. Additionally, the seed capsule may comprise two coats and may contain a soil conditioning substance, nutrients, herbicides, pesticides, and a bitter substance. Moisture retaining substances and other additives,

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enhance the germination microenvironment of the seed and act as a soil conditioner.

Additionally, the soil conditioning material comprises a sludge composition or a fiber-containing by-product of a paper making operation.

Schreiber teaches a seed having a multiple layered coating (column 3, lines 35-39) in which the outer coating controls water imbibition of the seed to the extent necessary to delay germination until environmental factors are conducive to growth (claim 1).

Schreiber does not teach a combination seed capsule which can be easily broadcast, and contains nutrients, herbicides, pesticides, a bitter substance, and a soil conditioning substance.

Aswell teaches a waste paper soil conditioning and fertilizing pellet (column 1, lines 14-19). The densified pellets have greater water absorption and retention qualities than do most soils (column 3, lines 10-14) and may contain fertilizing ingredients (claims 5, 7).

Roth teaches an activated sludge that acts as an agricultural chemical carrier and suggests its use for seed pellets (abstract), as stated above.

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to use the method of coating seeds as taught by Schreiber, and to modify that method by using the waste paper soil conditioning and fertilizing pellet as taught by Aswell to contain the seeds, given that it would have been obvious to want to fertilize and condition the soil in order to realize healthy seedlings. Additionally, it would have been obvious to use the activated sludge as taught by Roth to plug the hollow pellets taught by Aswell in order to minimize any contact to herbicides included within the capsules, and to increase fertilizing

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(Roth, column 2, lines 25-27) and water retention values. Choice of fungicides, pesticides and animal repellents would have been the optimization of process parameters.

No claim is allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie Grunberg whose telephone number is (703) 305-0805. The examiner can normally be reached from Monday through Thursday from 7:30 until 5:00, and every other Friday from 7:30 until 4:00.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached at (703) 308-3909. The fax number for the unit is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

AMG

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June 16, 1999

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1649

A handwritten signature in cursive script, appearing to read "David T. Fox", written in black ink.